



# DX8000 Hard Drive Upgrade Installation to a Four-Drive System

**DX8000**

Digital Video Recorder

C1609M (6/04)



Protecting people and property in a million locations worldwide.

# Introduction

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The following instructions serve as a guide for upgrading the storage capacity of the DX8000 Series digital video recorder (DVR). Included are step-by-step directions for installing one to three additional hard disk drives in the DX8000 using the DX8000-UP250 hard disk upgrade kit. The following illustrates how to upgrade your DVR to a four-drive system.



**IMPORTANT:** If this upgrade requires the replacement of the DX8000's primary/system hard disk drive (drive 1 nearest the CD/DVD drive), refer to the instructions for replacing the primary drive (manual number C1606M). This manual should be included with this upgrade kit if a primary drive replacement is necessary.

## PARTS LIST



**NOTE:** This upgrade kit includes one or more Pelco-certified hard disk drives. Using any other hard disk drives with the DX8000 voids the manufacturer's warranty for this product.

Quantity	Description
1 to 4	250 GB hard disk drive(s)
1 or 2	80-pin straight IDE data cable(s)
2 or 4	Mounting screws
1	DX8000-EXD IDE extender card (manual, driver diskette, and hold-down bracket)

## TOOLS NEEDED

- 1 Phillips-head screwdriver #1 (nonmagnetic)
- 1 Properly grounded ESD wrist strap and mat
- 4 Small containers for storing screws (optional)

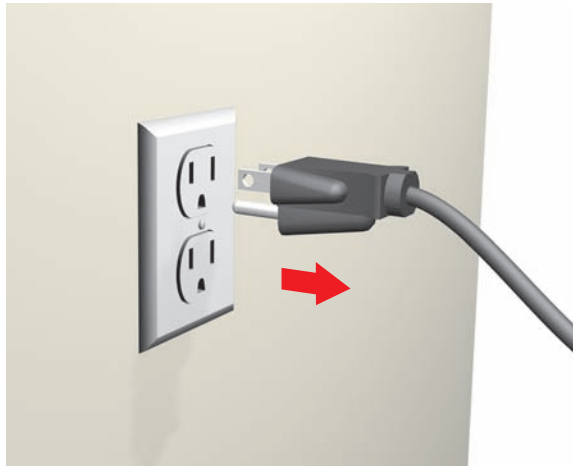
# Getting Ready

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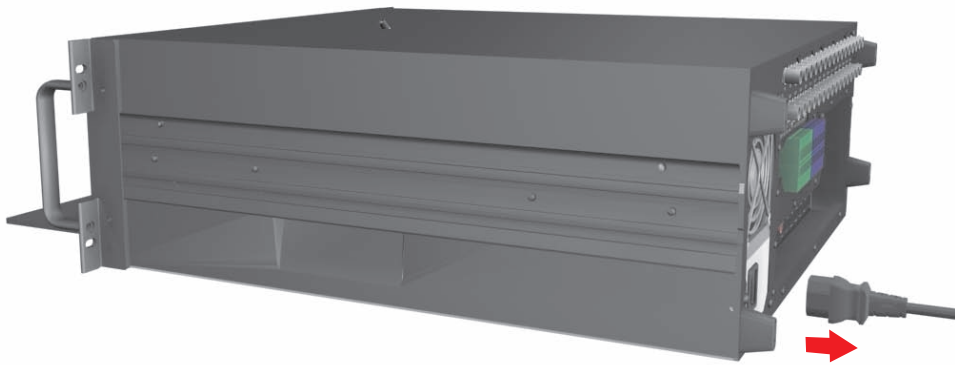
1. Familiarize yourself with the instructions throughout this manual.
2. Check that you have all the necessary parts and tools. Refer to the *Parts List* and *Tools Needed* sections.
3. Shut down the DX8000 Series DVR unit. Refer to DX8000 Installation Manual or Operations and Programming Manual for instructions on shutting down your unit.
4. Unplug the power cord from the wall socket and then from the rear of the DVR.



**WARNING:** For safety reasons, you must remove the power cord because current continues to flow through the DX8000 even when the unit is off. Remove the power cord from the wall socket first and then from the rear of the DVR. It is critical that the unit be unplugged for your safety.



**Figure 1.** Removing Power Cord from Wall

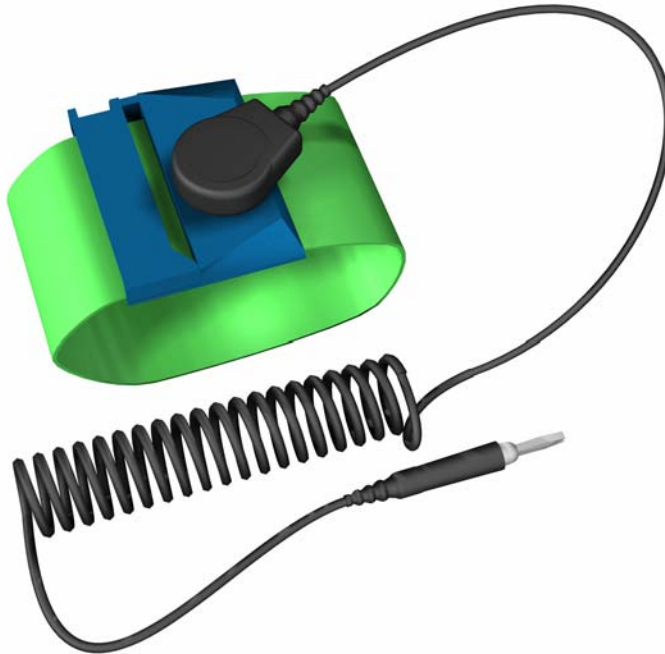


**Figure 2.** Removing Power Cord from Unit

5. Ensure that the DX8000 Series DVR and all of its components are protected against electrostatic discharge (ESD). Before handling any electronic components, you should take steps to ground yourself properly so that any built-up static electric charges are dissipated away from the unit. The most effective method for combating ESD is to use a properly grounded wrist strap.



**NOTE:** If you do not have access to a grounded wrist strap, you can discharge any built-up static by periodically touching an unpainted section of the chassis.



**Figure 3.** ESD Protection

# Prepare Unit for Drive Installation

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**IMPORTANT:** If this upgrade requires the replacement of the DX8000's primary hard disk drive (drive 1 nearest the CD/DVD drive), refer to the instructions for replacing the primary drive (manual number C1606M). This manual should be included with this upgrade kit if a primary drive replacement is necessary. Many of the steps are the same for replacing the primary drive and for adding an additional drive. This manual provides instructions for installing an additional drive. If you are also going to replace the primary drive, you may wish to review this manual and manual C1606M before proceeding with the installation to avoid duplication of procedures.

## OPEN THE UNIT CHASSIS



**WARNING:** The chassis assembly includes parts with sharp edges. To avoid injury, use caution when working in and around the DX8000's chassis and components.

1. If the DX8000 is mounted in a rack, remove it and transport it to an area that will provide full access to the unit chassis:
  - a. Disconnect any cables or connections that might restrict access to or the removal of the unit.
  - b. Unscrew the fasteners that are securing the unit in the rack.
  - c. Carefully lift the unit out of the rack.



**NOTE:** Removing the DX8000 from a rack may require more than one person. Refer to the DX8000 Installation Manual for rack mounting information.

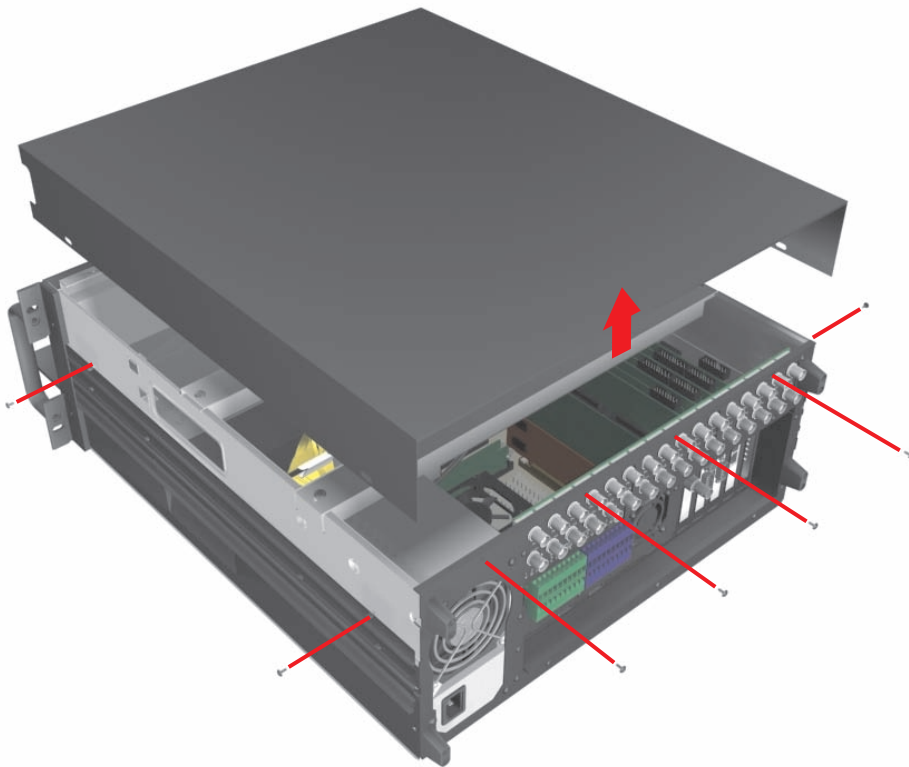
2. Place the DX8000 on a flat surface with ample workspace.

3. Using a Phillips-head screwdriver, remove the chassis cover:



**WARNING:** Make sure unit is turned off and you are wearing a properly grounded ESD wrist strap before attempting to open the DX8000 chassis cover. Refer to the *Getting Ready* section.

- a. Remove the two top-most screws on the left and right side panels of the DX8000. Refer to Figure 4.
- b. Remove the four silver screws fastening the cover to the rear of the unit. These screws are the ones closest to the top of the unit. Refer to Figure 4.
- c. Carefully remove the chassis cover by sliding it back and up. Set aside the cover. Figure 5 illustrates the interior of the DX8000.



**Figure 4.** Removing Chassis Cover



# COMPONENT LAYOUT

Figure 5 shows the location of your DX8000 Series DVR's major components. Certain cables and components have been omitted from the illustrations in this manual for the purpose of clarity.

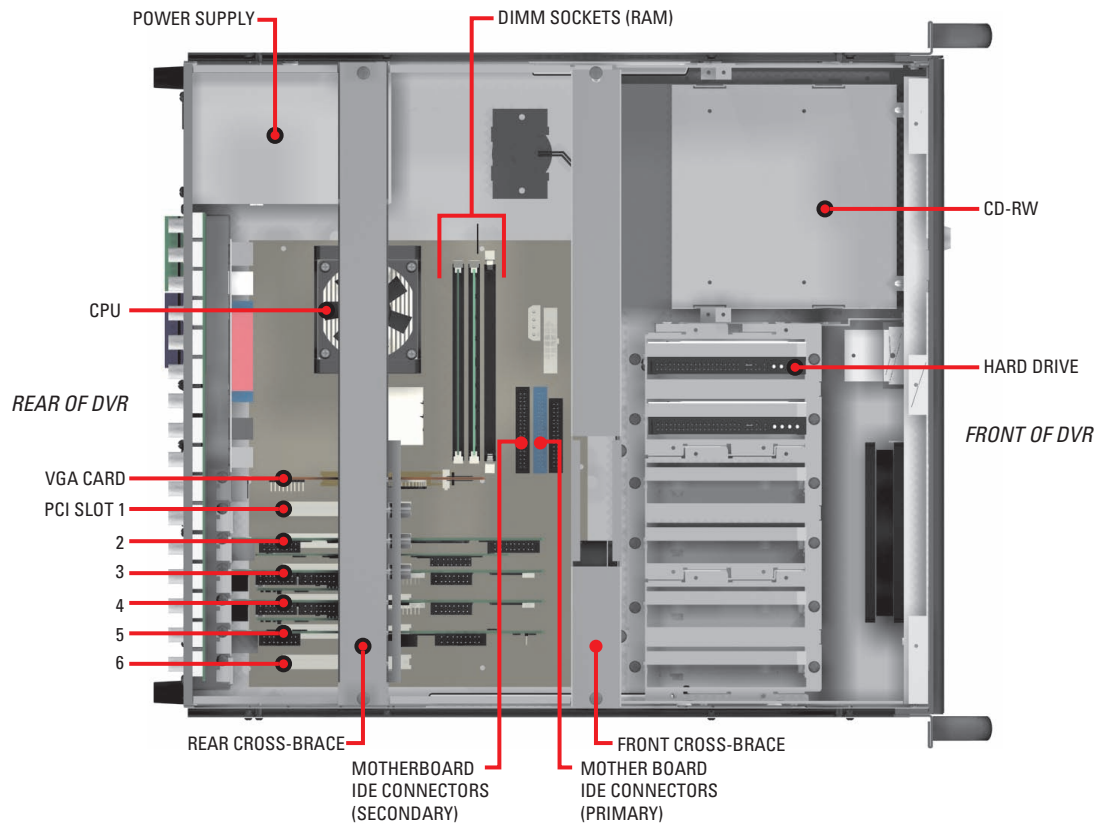
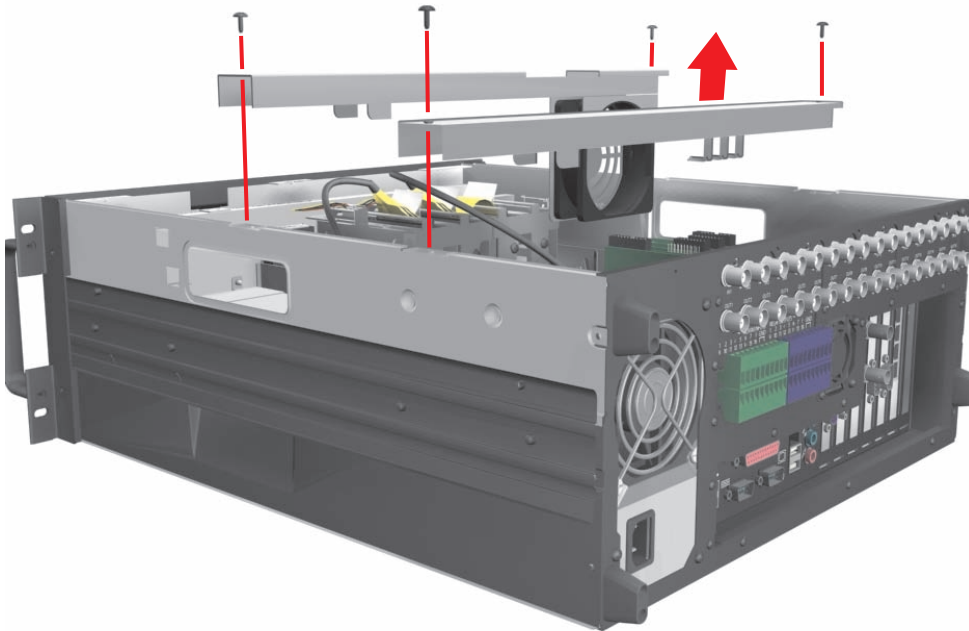


Figure 5. DX8000 Interior

# Move the Front and Rear Cross-Braces

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1. Unscrew and lift out both the front and rear cross-braces. Moving these parts out of the way will make it easier for you to access the hard drive mounting baskets and PCI Slot 6.
  - a. Use a Phillips-head screwdriver to remove the two flat-head screws that secure each cross-brace. Refer to Figure 6.



**Figure 6.** Removing Front and Rear Cross-Braces

- b. Carefully place each cross-brace across the rear section of the unit. Refer to Figure 6.



**WARNING:** Do not disconnect the wires or remove the front cross-brace entirely from the unit—doing so may cause damage to the fan's power connection.

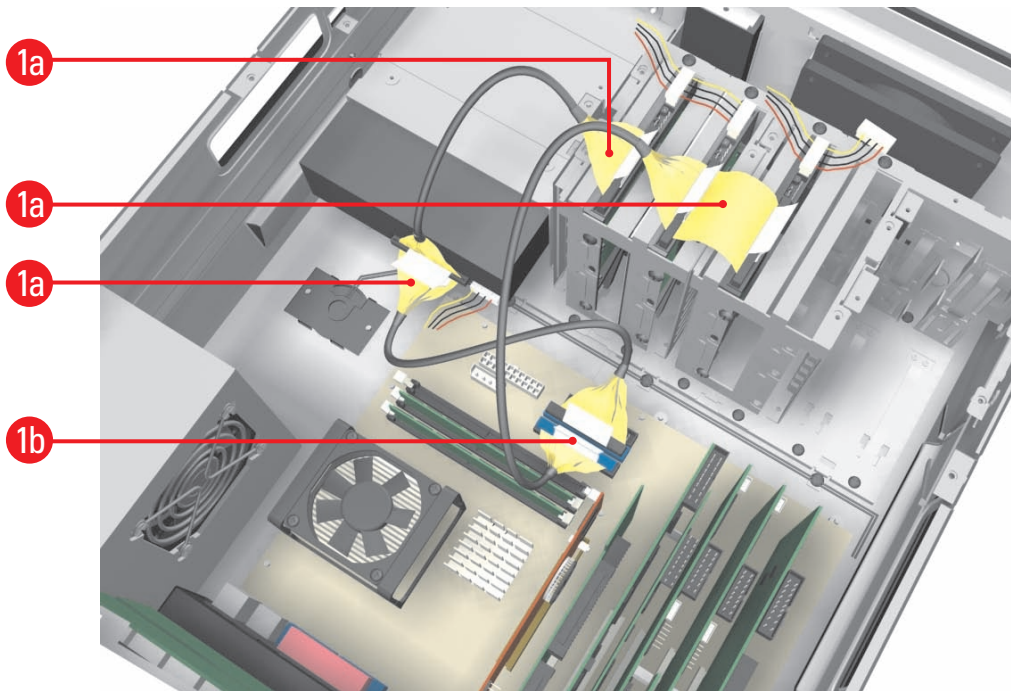


**Figure 7.** Placing Front and Rear Cross-Braces Out of the Way

# Disconnect the Data and Power Cables

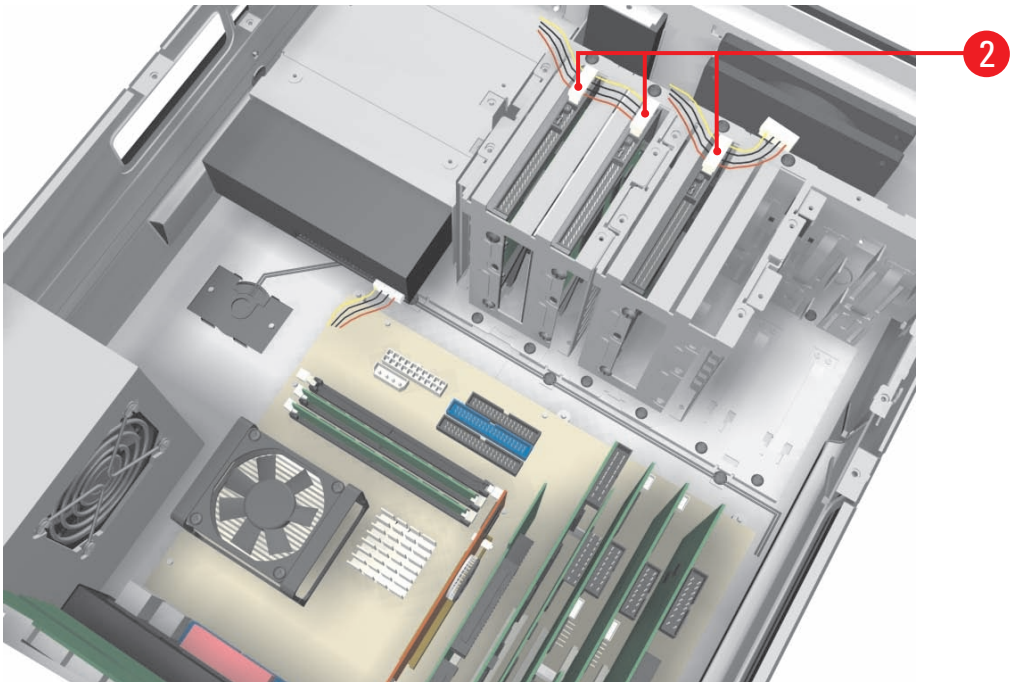
When removing data and power cables, pull the connectors straight out. Do not rock connectors back and forth or remove a connector by pulling it by its wires.

1. Remove the IDE data cables from the hard drives, CD-RW drive, and motherboard:
  - a. Carefully pull the plastic tab of each cable connector away from the hard drives and CD-RW drive. Refer to Figure 8.
  - b. Following the same procedure, remove the other end of each IDE cable from the drive interface connector on the motherboard. Refer to Figure 8.



**Figure 8.** Removing IDE Data Cables

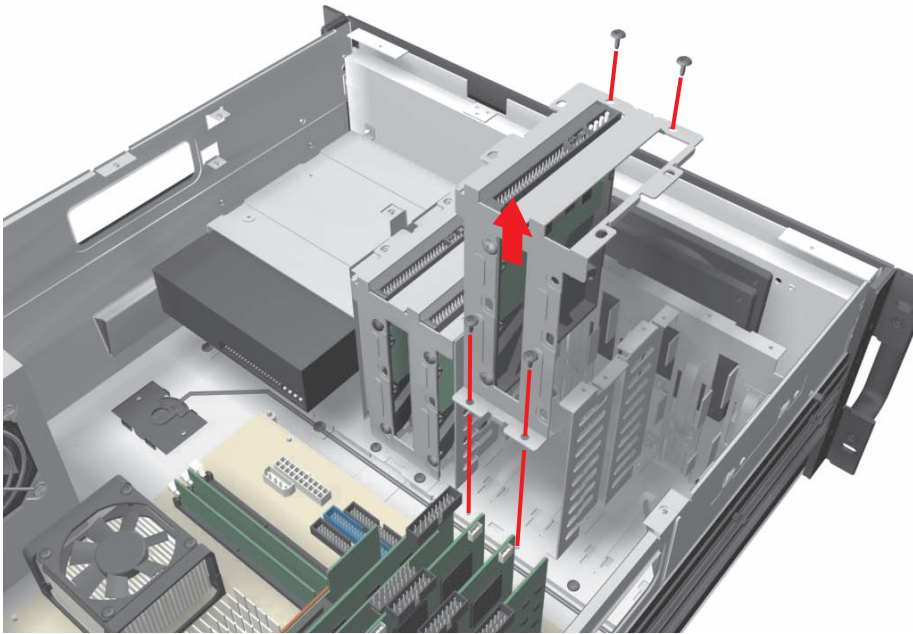
2. Remove the power connectors from the hard drives.



**Figure 9.** Removing Hard Drive Power Connections

## REMOVE THE DRIVE MOUNT BASKETS

1. Remove hard drive mounting basket(s):
  - a. Using a Phillips-head screwdriver, unfasten the four screws that attach each drive basket to the chassis. Refer to Figure 10.
  - b. Gently lift the basket up and out with drive(s) attached. Be careful not to force the basket free or to disturb other components inside the unit.



**Figure 10.** Removing Hard Drive Basket



**IMPORTANT:** When upgrading your unit, it is recommended that you do not remove previously installed drives from the drive baskets. However, if you do remove a drive for any reason, be sure to note the arrangement of the drives within the drive basket and reinstall them in the same order they were before removal. It is critical that drives be returned to the DX8000 in their original order.

# Install Additional Drive(s)

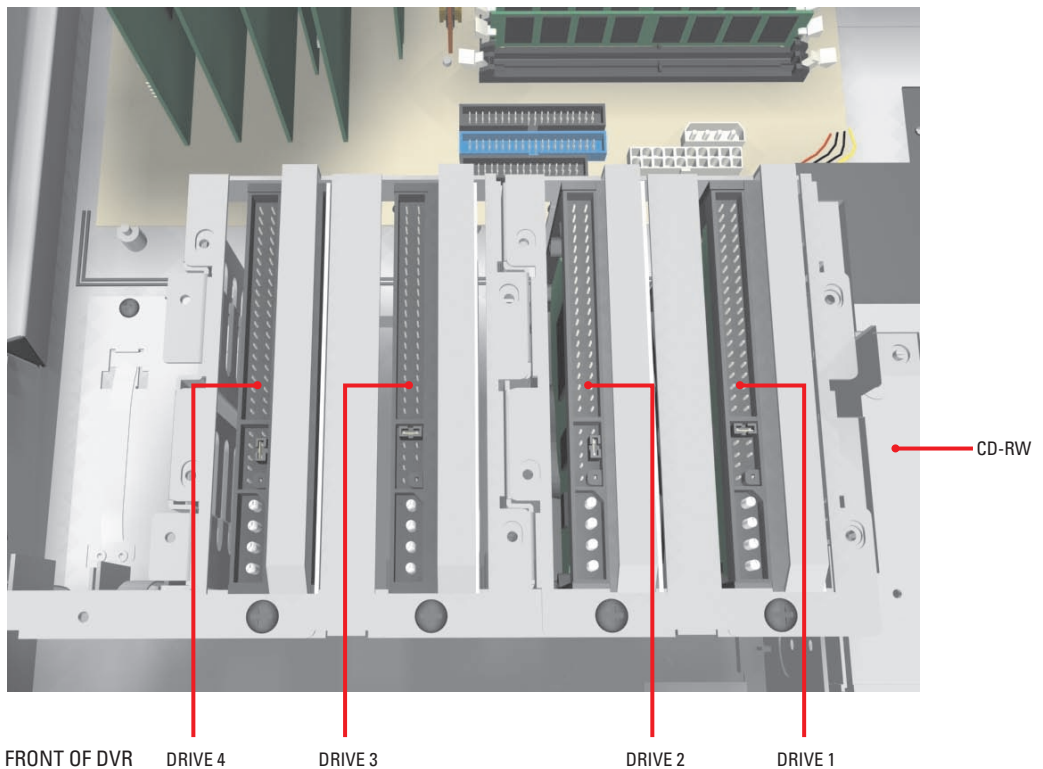


**NOTE:** This upgrade kit includes up to four Pelco-certified hard disk drives. Using any other hard disk drives with the DX8000 voids the manufacturer's warranty for this product.

## PREPARE THE DRIVES

Plan where the drives will go before you install them:

- Drives should be installed in order from right to left (as you face the front of the unit), beginning with the slot closest to the CD-RW drive. Refer to Figure 11.
- Leave no empty drive slots between drives in the drive basket.

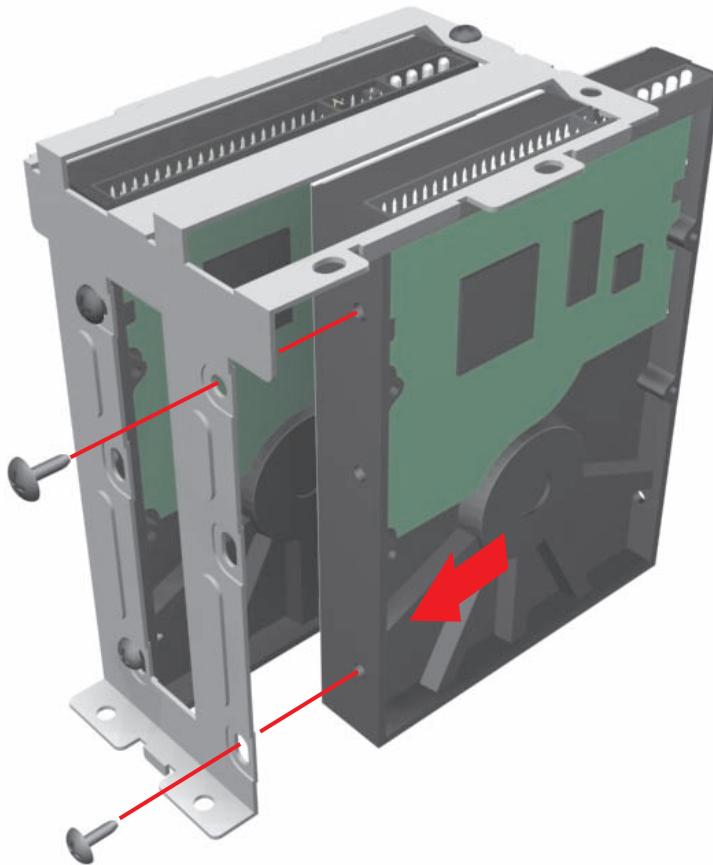


**Figure 11.** Hard Disk Layout



## MOUNT THE ADDITIONAL DRIVES

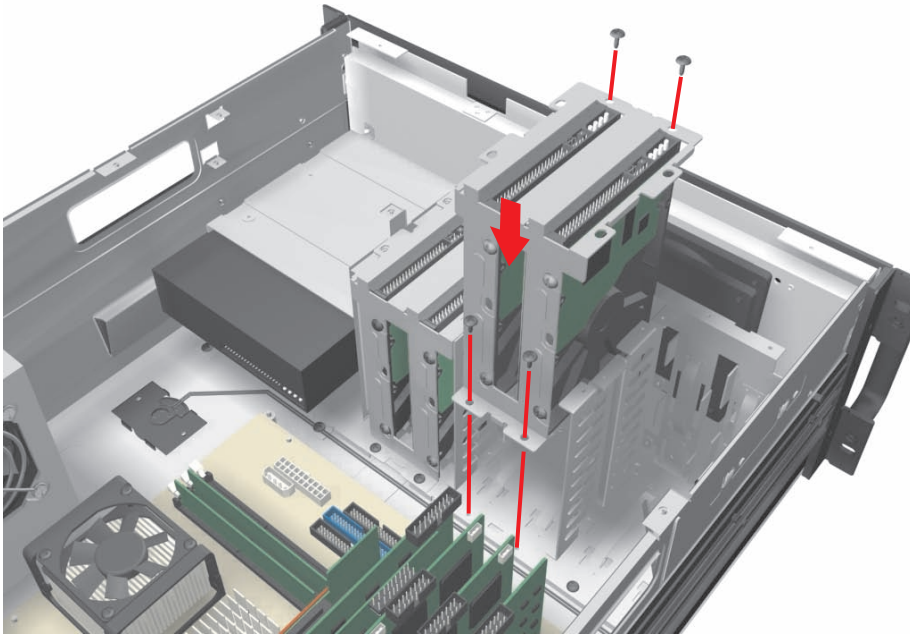
1. Mount the hard disk drives in the drive baskets. Refer to Figure 12 below.
  - a. Make sure drives are mounted in the baskets so that access to connectors is not blocked.
  - b. Attach each drive to the basket using the two screws that came with the upgrade kit.
  - c. Tighten the screws securely but do not over-tighten.



**Figure 12.** Inserting Drives into Basket



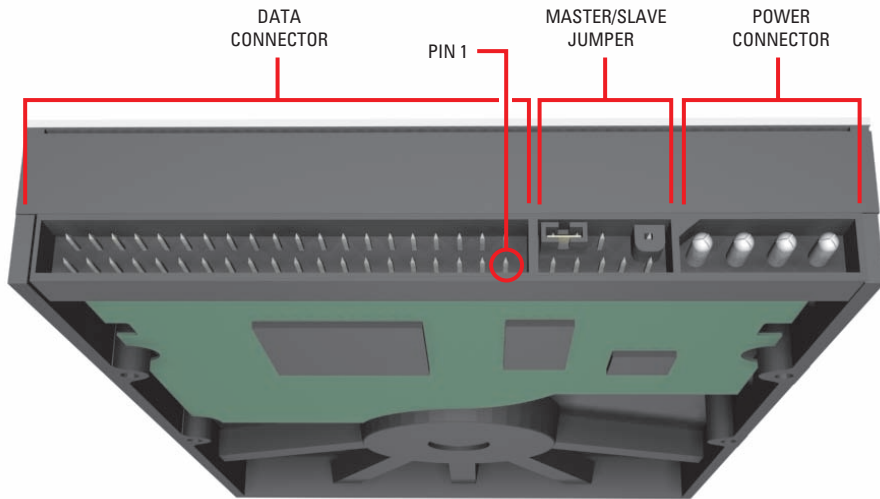
2. Mount the drive baskets back into the chassis:
  - a. Align the baskets and press down firmly to ensure that they fit flush against the top of the chassis bracket. Refer to Figure 13.
  - b. Secure the drive baskets to the chassis using four screws each.



**Figure 13.** Replacing Drive Baskets

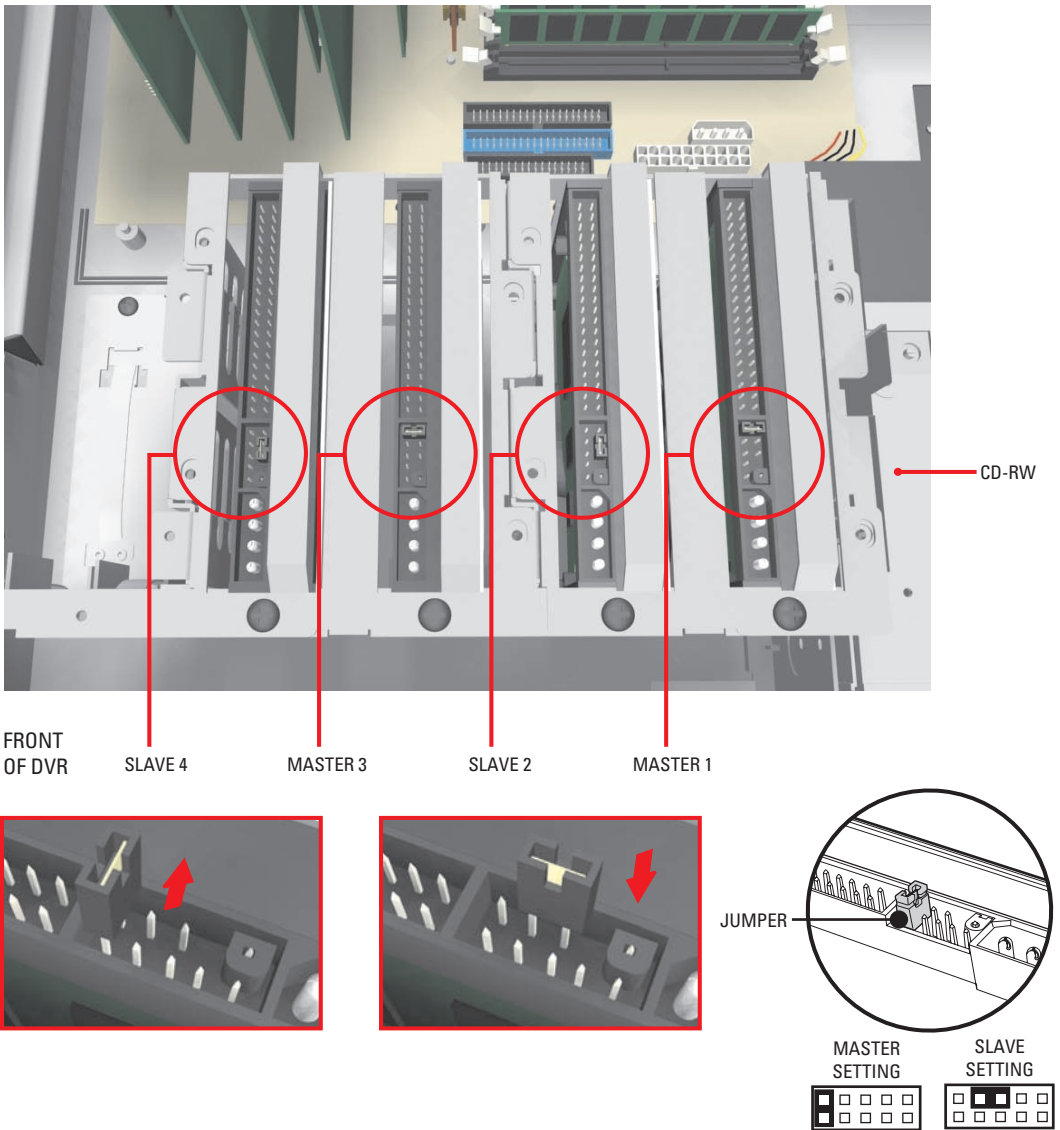
## SET THE MASTER / SLAVE JUMPERS

Each hard drive must be configured as either a master or slave device to operate correctly. A jumper is used to configure a pair of connected hard drives to operate in a master/slave relationship. A jumper is a small plastic part that slides over a pair of drive configuration pins. Figure 14 below illustrates the rear panel of a 250 GB hard disk drive and the jumper location.



**Figure 14.** Rear View of Hard Disk Drive

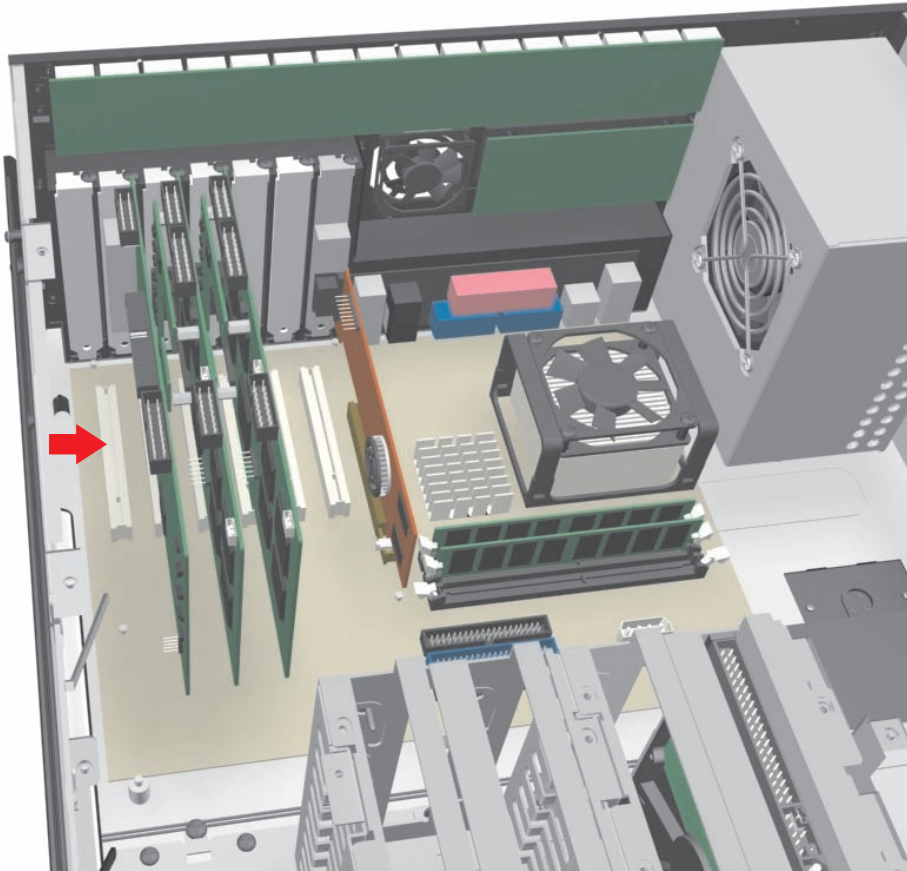
1. Set the appropriate jumper connections for each drive using Figure 15 as a guide.
  - a. Using your fingernails or a pair of tweezers, remove the plastic jumper blocks by pulling them gently away from the drive as shown in Figure 15.
  - b. Replace the jumper blocks for each drive. Make drives 1 and 3 master drives and drives 2 and 4 slave drives.



**Figure 15.** Setting Drive Jumpers

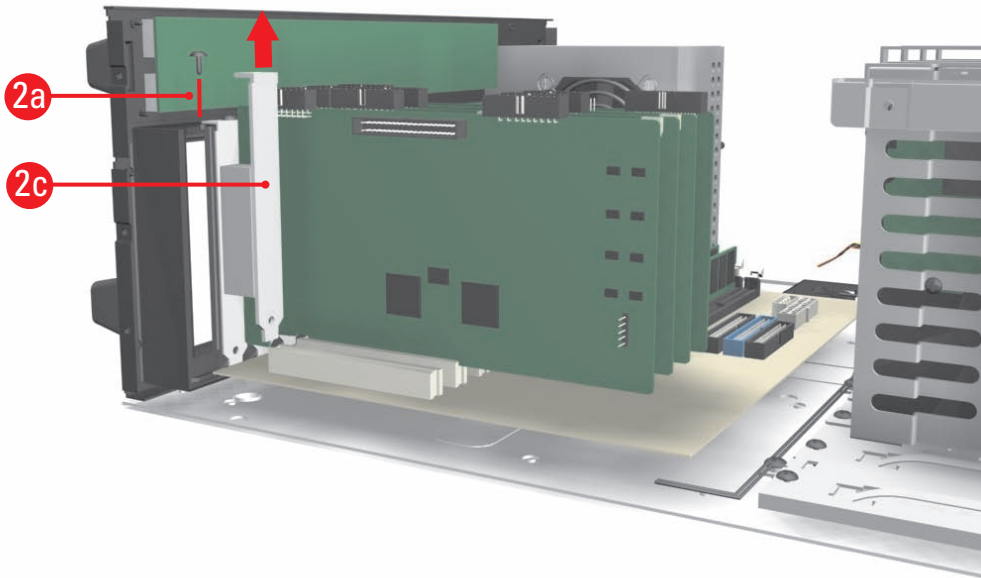
## INSTALL THE DX8000-EXD IDE EXTENDER CARD

1. Locate PCI slot 6 on the system motherboard. This is the expansion slot that is farthest from the unit's power supply. Refer to Figure 16.



**Figure 16.** Location of PCI Slot 6

2. Remove the slot cover from PCI slot 6:
  - a. Using a Phillips-head screwdriver, remove the screw that fastens the slot cover to the chassis.
  - b. Retain this screw for use in step 5.
  - c. Remove the slot cover from PCI slot 6.



**Figure 17. PCI Slot 6 Slot Cover**

3. Carefully remove the DX8000-EXD adapter card from its static-safe packaging. Handle the adapter card by its edges and slot cover, and avoid touching the card's components, connectors, and conductive leads.
4. Discard any driver diskettes, instructions, and hold-down brackets that came with your upgrade kit.

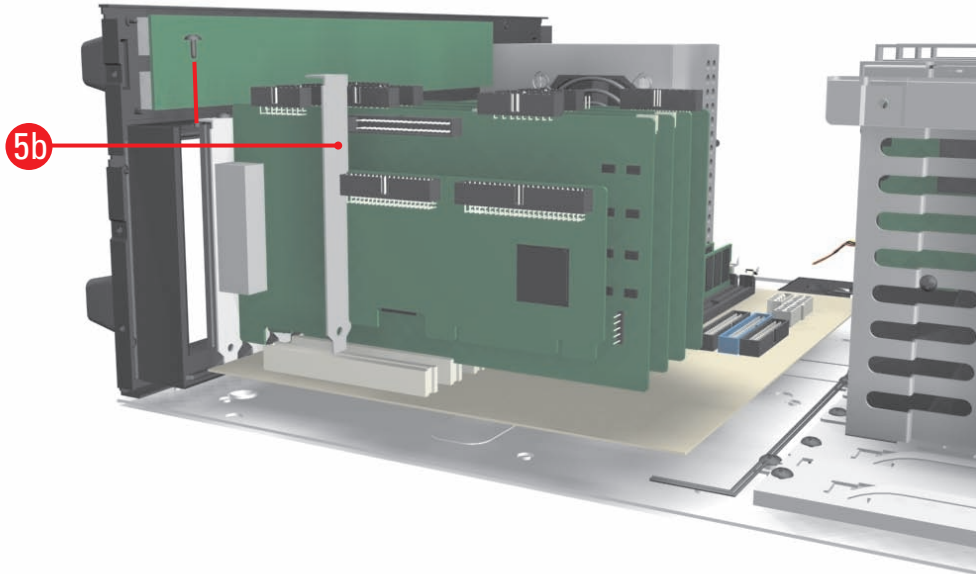


**NOTE:** All driver software required to install and operate the DX8000-EXD adapter have been preinstalled on your DVR.

5. Install the DX8000-EXD extender card in PCI slot 6:
  - a. Carefully move aside any cables blocking access to PCI slot 6.
  - b. Insert the DX8000-EXD extender card in PCI slot 6. Refer to Figure 18.
  - c. Press down firmly to ensure that the card is fully seated into the PCI slot.

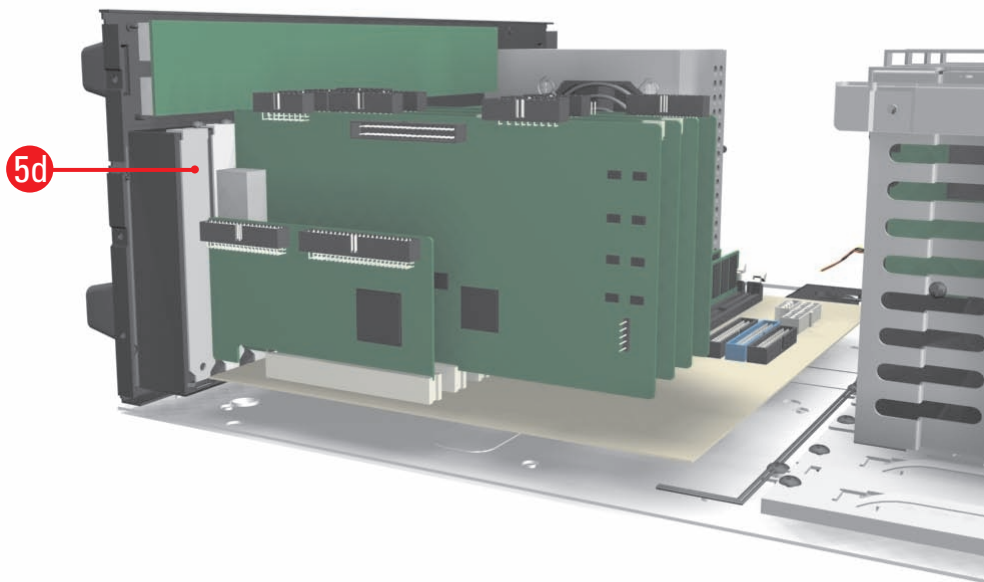


**NOTE:** Avoid using excessive force when inserting the card into the PCI slot. Attempting to force the extender card into the slot may damage the card, motherboard, and/or other components within the DX8000.



**Figure 18.** Inserting the DX8000-EXD IDE Extender Card

- d. Using the screw you removed in step 2, secure the extender card to the chassis. Refer to Figure 19.



**Figure 19.** Securing the DX8000-EXD IDE Extender Card

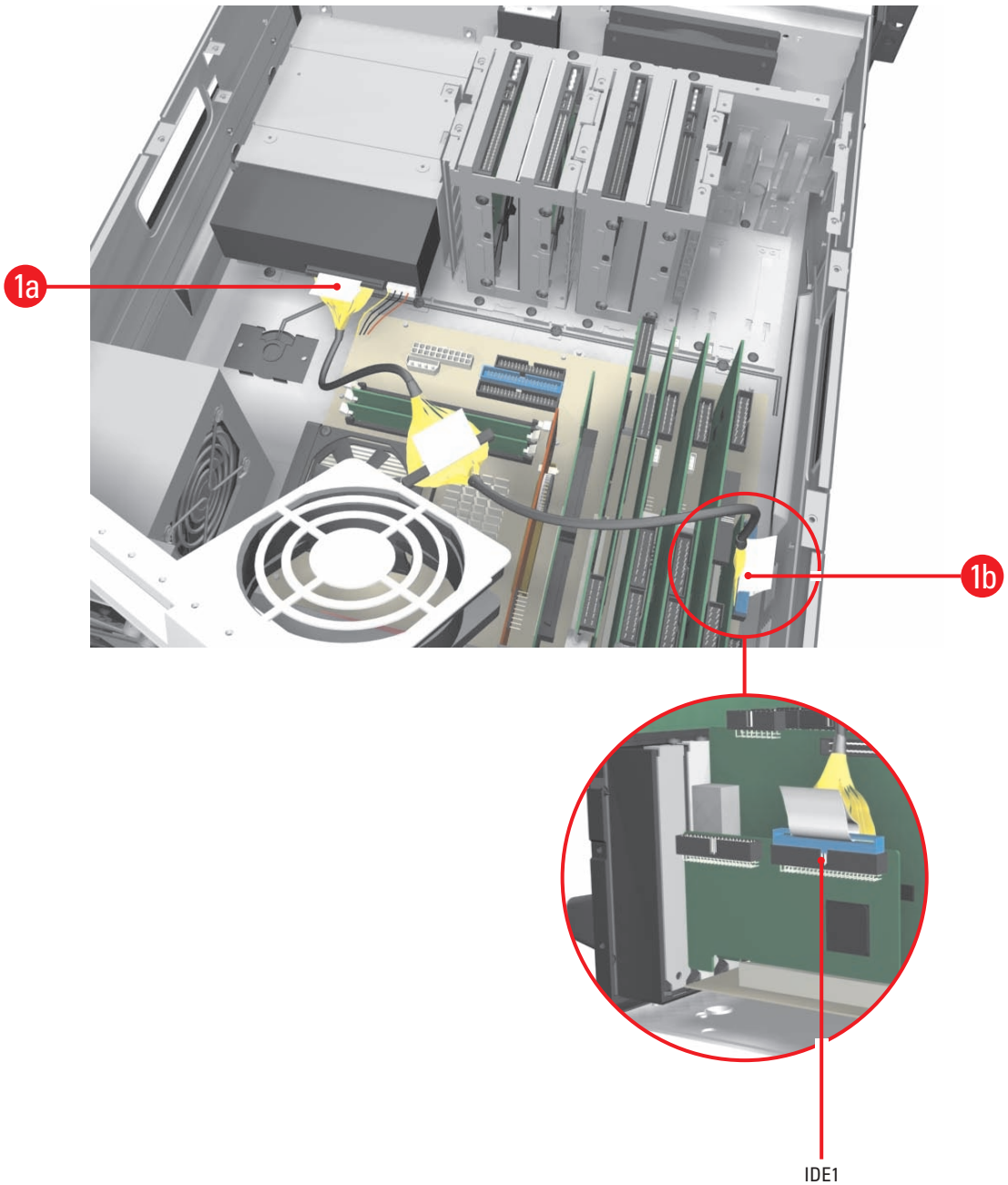
## RECONNECT DATA AND POWER CABLES



**IMPORTANT:** Data and power connectors fit together only one way. All connectors are keyed to ensure that they are inserted in the proper orientation. Examine the drive, motherboard and cable connectors before installation so that connectors are properly aligned. Make sure connectors are seated in the mating connectors securely, but do not force the connection. When installing drive power cables, push the connectors straight in or out; do not rock connectors back and forth.

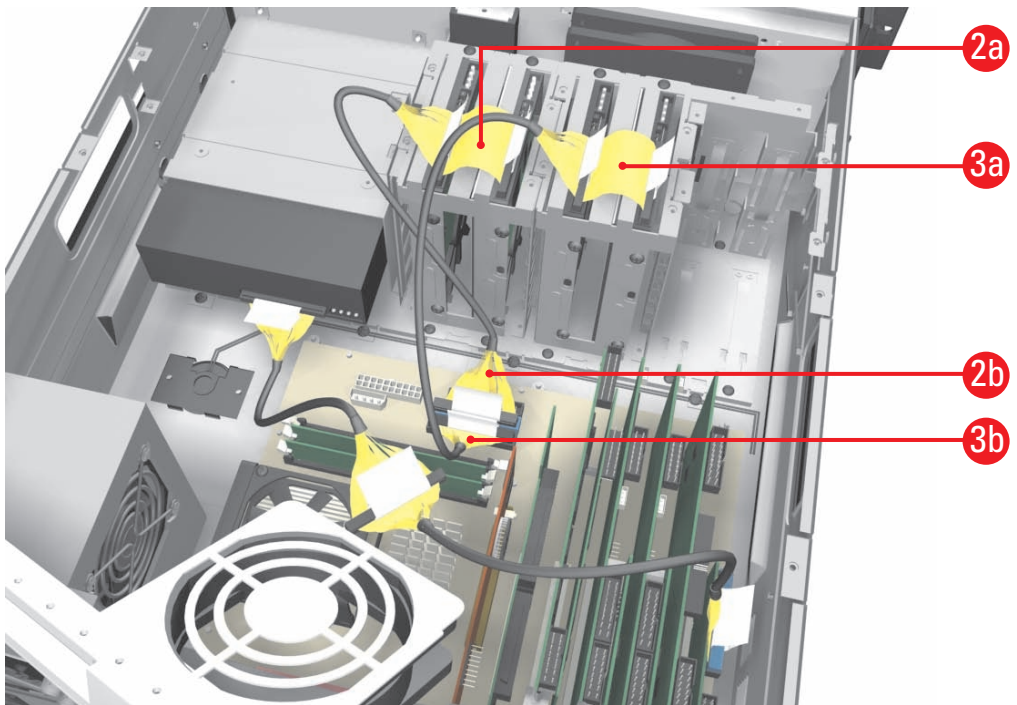
1. Connect the CD-RW drive to the system DX8000-EXD IDE extender card using the data cable that came with your DX8000:
  - a. Connect the *black* connector of the data cable that came with your DX8000 to the CD-RW drive as illustrated in Figure 20.
  - b. Connect the *blue* connector of the data cable to IDE connector labeled IDE1 on the DX8000-EXD extender card. This is the IDE connector that is closest to the front of the DVR. Refer to Figure 20.





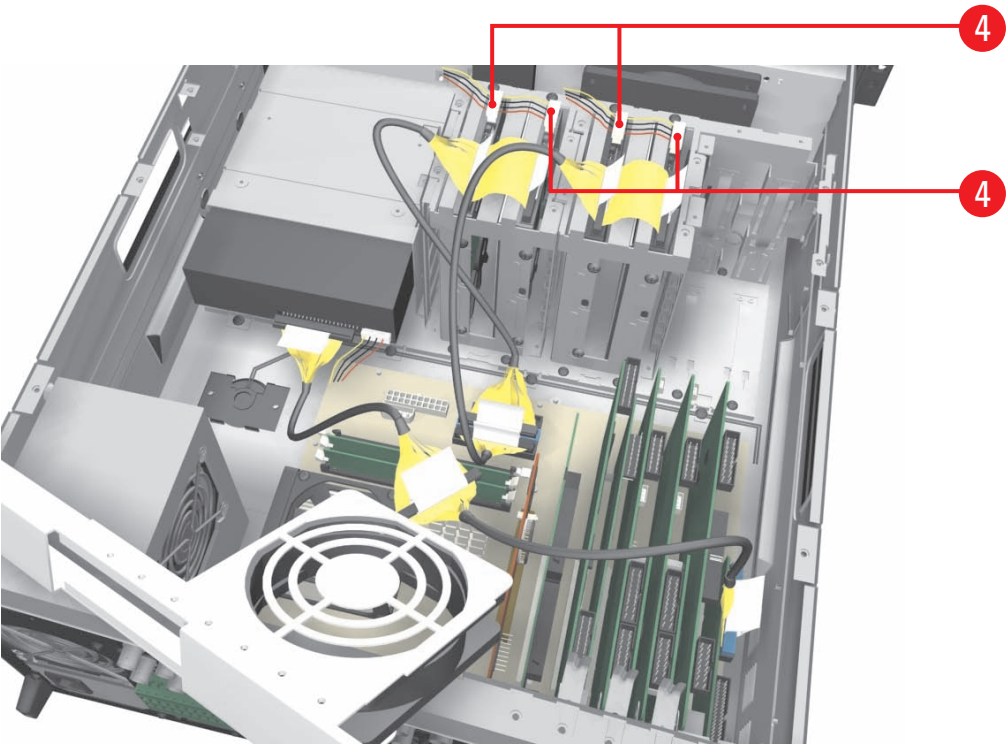
**Figure 20.** Installing the CD-RW Data Cable to the Extender Card

2. Using one of the straight data cables that came with your upgrade kit, connect Hard Drive 1 and Hard Drive 2 to the primary IDE connector on the system motherboard:
  - a. Connect the straight data cable to Hard Drive 1 and Hard Drive 2 according to the example shown in Figure 21.
  - b. Connect the straight data cable to the primary (*blue*) IDE connector on the system motherboard. Refer to Figure 21.
3. Using the other straight data cable that came with your upgrade kit, connect Hard Drive 3 and Hard Drive 4 to the secondary IDE connector on the system motherboard:
  - a. Connect the straight data cable to Hard Drive 3 and Hard Drive 4 according to the example shown in Figure 21.
  - b. Connect the straight data cable to the secondary (*black*) IDE connector on the system motherboard. Refer to Figure 21.



**Figure 21.** Installing Hard Drive Data Cables

4. Connect the hard drive power connectors according to the diagram in Figure 22.

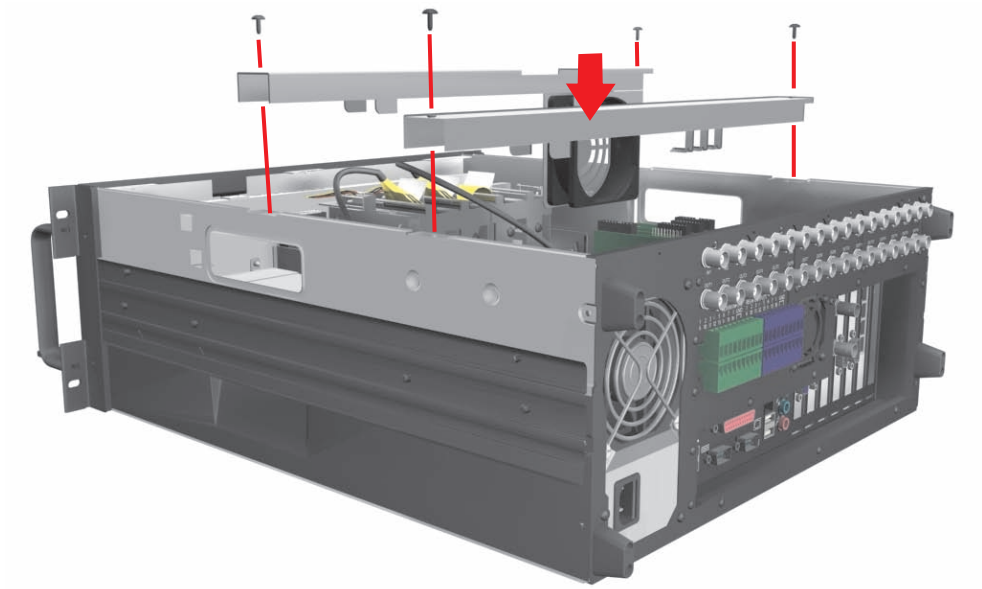


**Figure 22.** Installing Hard Drive Power Connectors

# Reassemble the Unit

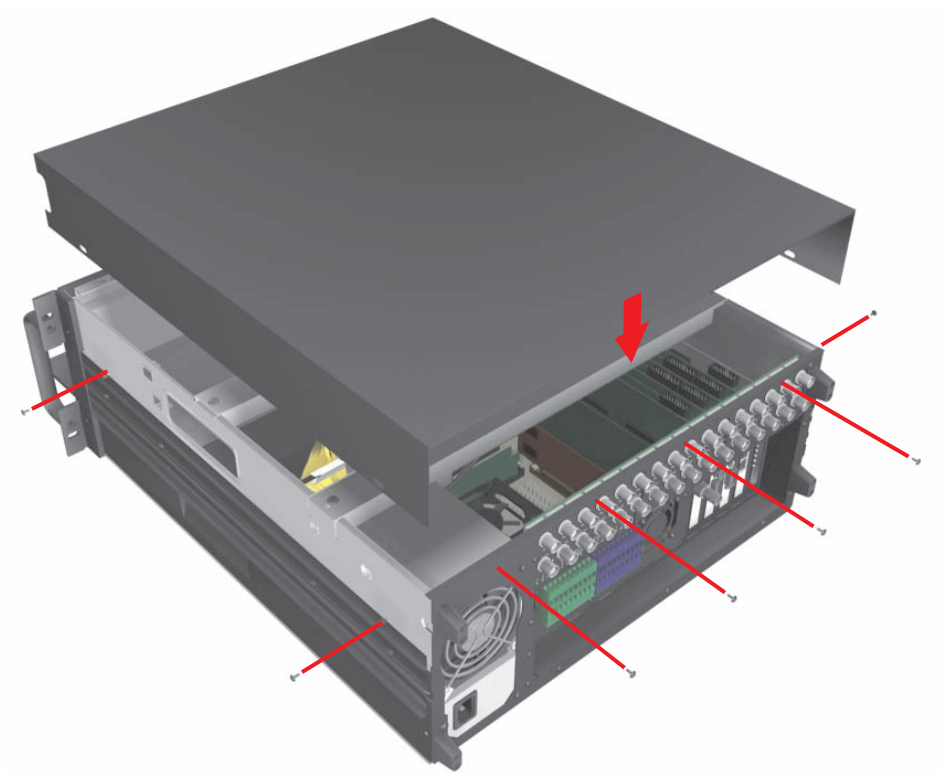
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1. Replace the front and rear cross-braces, and secure them with the flat-head screws you set aside earlier. Refer to Figure 23.



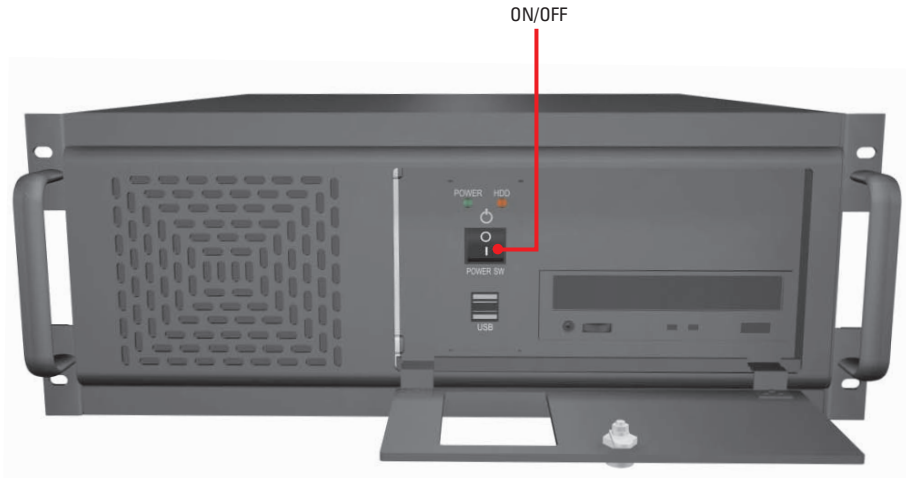
**Figure 23.** Replacing Front Cross-Brace

2. Replace the chassis cover using the same screws you removed from the side and rear of the unit. Refer to Figure 24.



**Figure 24.** Replacing Chassis Cover

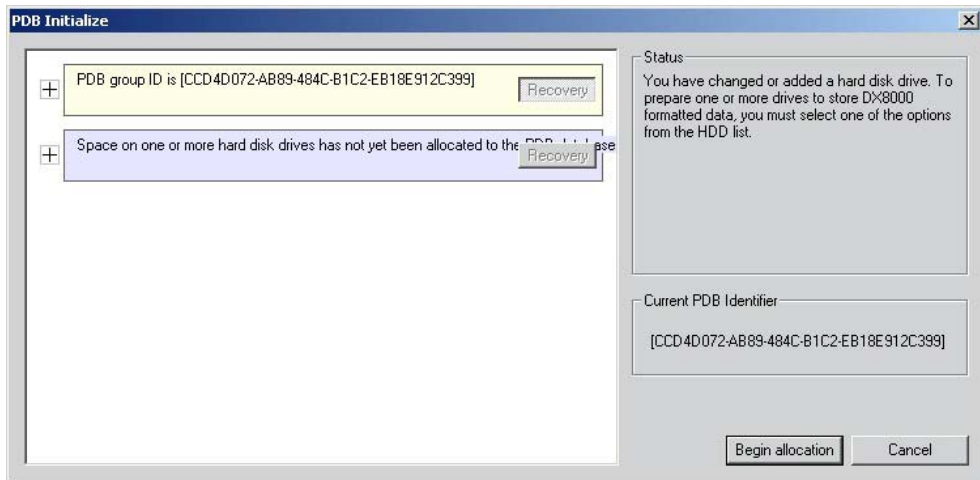
3. Reinstall the unit in a rack enclosure if necessary, and reconnect all cables and peripheral equipment that you removed earlier.
4. Plug the power cord back into the power supply and then into the wall.
5. Turn on the power switch and allow the unit to start up and find the new hard disks. This may take up to five minutes.



**Figure 25.** Restarting Unit

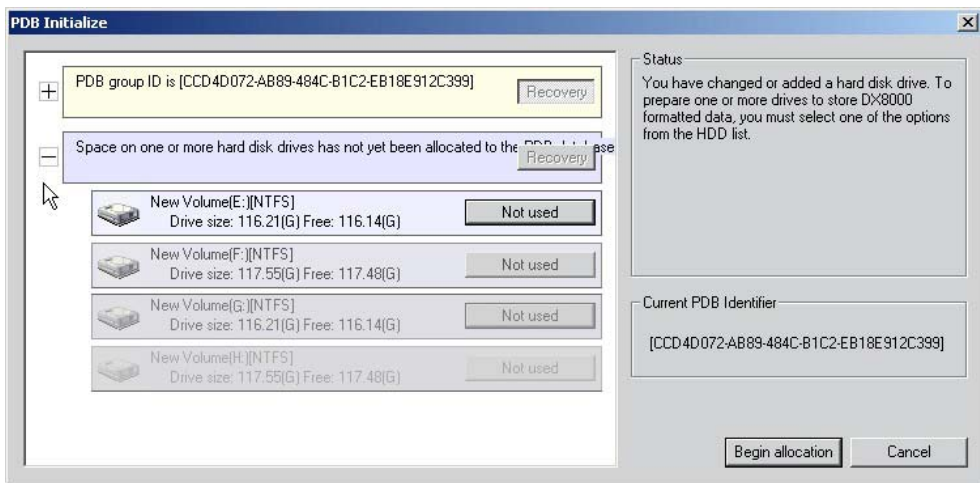
# Initialize the New Drives to Store Data

1. While the DX8000 starts, the built-in setup program will automatically detect the newly installed drives and reconfigure the basic settings of the unit to make use of the increased storage capacity. No action by the user is necessary during this step.
2. After the unit has detected and prepared the newly added drives, the Windows® operating system will automatically reboot to complete the drive preparation process. No action by the user is necessary during this step.
3. After the system has been rebooted, the PDB Initialize screen appears. Before the drives can be used to store video data, each new drive must be made compatible with the DX8000's Pelco proprietary database (PDB) file structure. Follow the steps below after the PDB Initialize screen appears to finalize storage setup:
  - a. Click the plus (+) sign next to the *blue* box—the one that reads, "Space on one or more hard disk drives has not yet been allocated to the PDB database." Refer to the Figure 26.



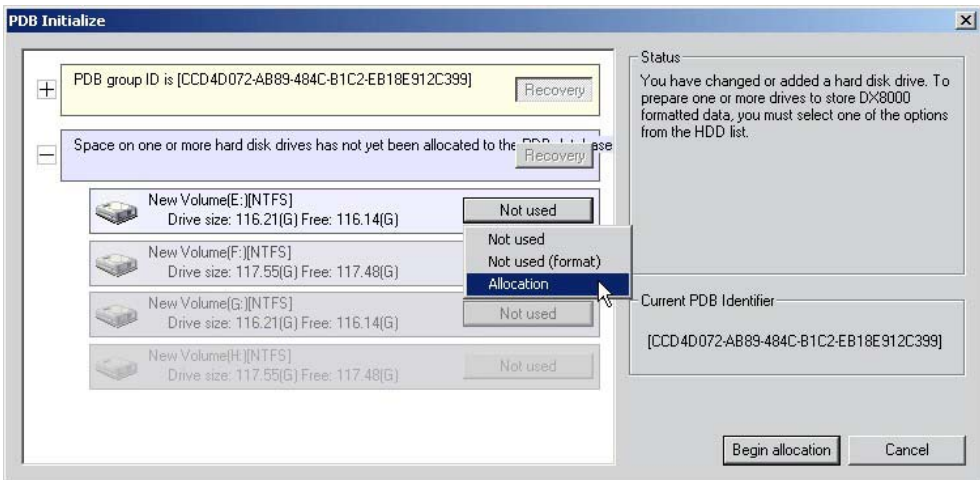
**Figure 26.** Opening List of Drives

- b. For each drive listed, click the Not Used button. Refer to Figure 27. A drop-down menu appears. There may be more than one drive listed, as shown in the figure below.



**Figure 27. Opening Drive Options Menu**

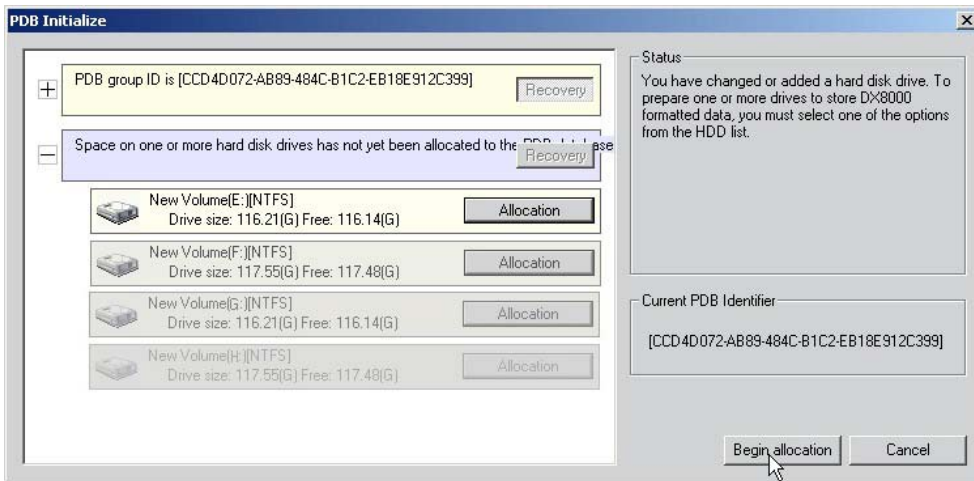
- c. For each drive listed, select the Allocation option from the drop-down menu.



**Figure 28. Selecting Allocation Option for Each Drive**



- d. Click Begin Allocation.



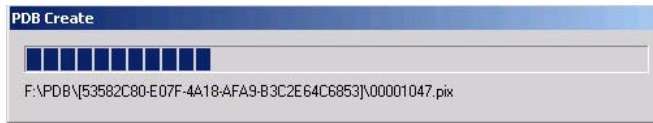
**Figure 29.** Initializing Drive Allocation

- e. The following warning appears. Click Yes.



**Figure 30.** Format Warning Dialog Box

- f. Wait while the DX8000 prepares the newly installed drives for video storage. You will see the following progress bar while the formatting is underway.



**Figure 31.** PDB Database Creation Progress Bar

4. After the storage allocation procedure is complete, the DX8000 will reboot automatically and the unit will be ready to resume service.

# PRODUCT WARRANTY AND RETURN INFORMATION

## WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on the following fixed camera models: CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X.
- Three years on all other fixed camera models (including Camclosure® Integrated Camera Systems) and Genex® Series (multiplexers, server, and keyboard).
- Two years on all standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM8500/CM9500/CM9700 Series Matrix, DF5 and DF8 Series Fixed Dome products.
- Two years on Spectra®, Esprit®, and PS20 Scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 series window wiper (excluding wiper blades).
- Eighteen months on DX Series digital video recorders and NVR300 network video recorders.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

## RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

*If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:*

Service Department  
Pelco  
3500 Pelco Way  
Clovis, CA 93612-5699

*If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:*

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco  
3500 Pelco Way  
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors  
473 Eccles Avenue  
South San Francisco, CA 94080 USA  
Phone: 650-737-1700  
Fax: 650-737-0933

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